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A CORRELATION STUDY OF FINANCIAL PLANNING PROCESS CHARACTERISTICS AND ADMINISTRATORS' PERCEPTIONS OF PROCESS WORTH, CONGRUENCE, AND CHANGE IN SELECTED MICHIGAN PRIVATE COLLEGES

by

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A Dissertation Submitted to the Faculty of The Graduate College in partial fulfillment of the requirements for the Degree of Doctor of Education Department of Educational Leadership

Western Michigan University Kalamazoo, Michigan December 1982
The need to study financial planning processes in institutions of higher education is demonstrated by the lack of information in the literature regarding perceptions of financial planning processes. During the current period of stress on educational institutions, an effective and efficient financial planning process can only be considered a benefit to the institution it serves.

Consequently, this investigation attempted to describe current financial planning processes in a selected number of private colleges within Michigan and to evaluate their financial planning processes as perceived by their administrators. This was done by identifying attitudes regarding the worth (effectiveness and efficiency), change dimension, and congruence as related to their ratings of process characteristics. The instrument designed for the study measured the respondents' perceptions of worth, change, congruence, and process characteristics.

The methodology used for this investigation was an ex post facto field study with a questionnaire on financial planning processes being the primary method of data collection. Descriptive information was also collected. The basic sampling units for the
study were selected private colleges with enrollments of 1,000 or larger. The response rate of the study was 69%.

The independent variables were process characteristics. The perceptions of worth, change, and congruence represented the dependent variables. Research questions were developed to guide the investigation. The research questions were examined through hypotheses testing.

The results of the data analysis led to the following conclusions about financial planning processes in private colleges in Michigan:

1. There was a direct relationship between "good" process characteristics and perceptions of process worth, change, and congruence.

2. The results of the study also suggested that it does not seem to make any difference in the type of process involved as long as the perceived "good" characteristics were present.
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Gary Hammerberg
TABLE OF CONTENTS

ACKNOWLEDGMENTS ............................................ ii
LIST OF TABLES ............................................. vi
LIST OF FIGURES ............................................ vi

CHAPTER

I. BACKGROUND AND STATEMENT OF THE PROBLEM ............. 1
   Background of the Problem ............................. 1
   The Problem ........................................... 6
   Rationale .............................................. 7
   Overview of the Dissertation .......................... 10

II. REVIEW OF SELECTED RELATED LITERATURE ................. 11
   Financial Planning .................................... 12
   History of Financial Planning Models ................. 16
      The Executive Budget Movement ...................... 18
      Performance Budgeting .............................. 19
   Planning, Programming, and Budgeting Systems ......... 20
   Budgetary Practice in Postsecondary Education ....... 20
   Incremental Budgeting ................................. 21
   Formula Budgeting .................................... 22
   Planning, Programming, and Budgeting System .......... 25
   Zero-Based Budgeting ................................... 25
   Performance Budgeting ................................... 26
# Table of Contents—Continued

## CHAPTER

Computer Simulation Financial Planning Models ......................................... 28

Characteristics of "Good" Financial Planning Processes .............................. 33

Ex Post Facto Research and Case Study Methodology .................................. 36

Summary .................................................................................. 40

### III. DESIGN AND METHODOLOGY .................................. 41

The Research Setting .................................................................... 41

Population .............................................................................. 41

Dror's Facet Design .................................................................... 42

Research Design ........................................................................ 46

Instrumentation ......................................................................... 47

Quality Indicators ....................................................................... 49

Specifics of the Survey Instrument ............................................ 50

Pilot Test .................................................................................. 52

Results of the Pilot Test ................................................................ 52

Data Collection Procedures ...................................................... 53

Data Analysis ............................................................................ 54

### IV. RESEARCH FINDINGS ............................................. 56

Characteristics of Respondents .................................................... 56

Characteristics of Respondents by Institution ................................. 58

Institutional Profiles and Financial Planning Processes .................. 60

Hypothesis Testing ...................................................................... 66
Table of Contents—Continued

CHAPTER

Summary ........................................ 69

V. DISCUSSION .......................... 71

- Review of the Problem and Procedures ............ 71
- Interpretations of Findings .................... 73
- Implications of Findings ........................ 75
- Recommendations for Future Research ............ 76
  - Expansion of the Study ...................... 77
  - Comparison of Administrators ............... 77
  - Evaluation of Specific Plans ................ 77
- Conclusion ...................................... 78

APPENDICES ........................................ 79

A. Structured Interview Questions for the Chief
   Financial Officer ............................. 80
B. Survey Instrument ............................ 82
C. Instructions to the Validation Panel for the
   Development of the Survey Instrument ........... 90
D. EDUCOM's Education Financial Planning Model
   and Management Control System .................. 94
E. Questionnaire Validations ........................ 101

BIBLIOGRAPHY ...................................... 104
LIST OF TABLES

1. Characteristics of "Good" Financial Planning Processes .......................... 34
2. Questionnaire Return Data ..................................................... 57
3. Percentage of Respondents by Type of Position ................................... 58
4. Respondents' Years in Present Position ........................................ 59
5. Respondents' Years at Institution ........................................... 59
7. Pearson Correlation Coefficients .............................................. 68

LIST OF FIGURES

1. A Structure for Viewing Planning Processes ............................... 43
CHAPTER I

BACKGROUND AND STATEMENT OF THE PROBLEM

Background of the Problem

Educational master planning is generally considered to consist of three subplanning areas. These are academic, financial, and administrative planning. Jones (1979) collaborates this view with his definition of contemporary institutional academic planning. He includes three principal components: (a) academic instructional and research; (b) administrative including physical facilities and scheduling of admission, enrollment in courses accomplished both centrally and in academic units; and (c) resource utilization planning. While all three areas should be linked in some manner to ensure an efficient master planning activity, this study will specifically deal with financial planning.

Educational planning first began in medieval universities with the advent of separate administrations. From that time to the present, it has been practiced with relative degrees of success. The greatest amount of interest in planning arises during times of economic stress. The period of reduced growth in the 1930's due to the Great Depression, not unlike the current situation, stimulated planning activities.

The rapid growth periods of the 50's and 60's seem to overshadow the interest in serious planning beyond that needed to find
room for more students and the development of new programs. The most demanding problems were where to build the next dormitory and where to get sufficient faculty to fill the classrooms.

The 70's and early 80's have witnessed the decline of enrollments and the disappearance of much of the federal funds used in the expansion period of earlier years. This declining enrollment along with the present rate of inflation, goal ambiguity, and stressed administration-faculty relationships are but a few of the many problems facing higher education today. Confronted with these dilemmas, administrators should look to financial planning for help during the present economic problems.

Although there is little evidence from the literature in higher education that supports the concept that the planning process will assure the success or growth of an institution, most authorities agree that planning is necessary. Most of the current literature that deals with financial planning presents normative models or systems for the process of planning. There are only a few articles in the higher education literature that speak to the issue of the perceptions of these planning processes.

Hinman (1978), in a major review of planning literature of 173 situations, concluded that most references involved either planning typologies, orientations toward planning theory or planning definitions. She continued by stating that only a small body of empirical research on planning processes in organizations has been developed in the last 5-7 years.
Williamson (1975) said of financial planning that for every set of overall goals and strategy, there is a corresponding set of financial goals and strategy. He continued by stating that as a practical matter, the device for establishing the financial goals to accompany a set of overall goals is a long term budget—a projection of revenues and expenditures for at least 5 years, and hopefully for 5 to 10 years, and an accompanying projection of capital resources. Williamson concluded his remarks by stating that there was a need for improved financial planning activities at most colleges and universities.

Meeth (1974) suggested that the process of long-range planning is probably more valuable than the results. He stated that participation, working through in one's own mind and with others, giving and taking, compromising, and finally reaching tenable positions is the most valuable part of planning.

But there is increasing evidence of apparent frustration with the current planning concepts. Salloway and Tack (1978) listed negative attitudes of personnel toward formalized planning as one of the most frequent problems encountered in executing the planning process.

Berman and McLaughlin (1978), on the topic of institutionalizing new budgetary procedures, made two observations. First, identifying effective budgeting procedures and implementation and institutionalization can be expected to be difficult. Second, budgeting procedures that in fact allow the cost of various options to be weighed are bound to produce unanticipated effects on a wide range
of operations.

Is the process of planning more important than measurable outcomes of planning, as Meeth (1974) suggested, and what are attitudes of administrators toward formalized planning? Meeth contended that the intolerance to planning, looking ahead, is rooted in our traditions. Americans are proud of their individual freedoms, and planning threatens to curtail personal and collective freedoms by forcing participants to choose and commit to in advance the alternatives they will pursue. Developing a long-range plan conceivable intensifies that fear because it requires a commitment to only one alternative among many. It reduces the freedom to choose other alternatives or to withdraw entirely. Planning generates fear of commitment to the unknown, which it must deny in order to be effective.

Meeth's (1974) opinion that long-range planning requires a commitment to only one alternative is erroneous. Long-range planning must consider many alternatives, determine a course of action, and maintain alternative choices. This is necessary to maintain the ability to respond rapidly in case the course of action should fail.

His concept of fear of planning has merit. Individual freedoms and freedom of choice have become entrenched in the American educational scene as academic freedom. This aspect makes the idea of planning particularly untenable to academicians, many of whom have gone on to hold administrative positions.

Buchtel (1980) stated that the best a planning or change agent can hope for is to develop a process that will make it easier to herd the straying circumstances, organization flux, and shifting
human behavior toward agreed upon goals. After a planning process is established, we should be aware that we do not plan certainty; we plan alternatives. There is no one approach that assures a close linkage between the collectively well thought out planning process and what actually happens, because in planning and change we are trying to impose predictable behaviors.

Planning is essentially an aid to decision making. Hopkins and Massy (1977) contended that decisions must be evaluated in terms of their long-range consequences for financial stability and that the most useful tools are those that represent budgeting in a multi-year context. Their model and other models cited in the literature are designed to assist in top-level decision making and refute the lackadaisical attitude assumed by Buchtel (1980) in regard to the planning process.

The literature presents elaborate models and methods for the purpose of financial planning. Few of these have been modeled or designed specifically for the small private institutions, and fewer yet describe the outcomes of these processes in actual situations.

Early studies and reports (Bundy, 1968; Germano, 1968; Grease, 1968; Kendrick, 1966) all point to inadequate budgetary and financial planning processes in colleges and universities. These institutions have been classed among the more backward of organizations with respect to administrative procedures. Specifically, the Ford and Danforth Foundations expressed disillusionment over the financial measures in use by private colleges. Other areas of concern were expressed for the nature in which budgets were prepared. It
was concluded that most were handled by central administration with no regard for long-range budgets. There appeared to be a difference between the theoretical and actual structure of budgetary practices. Again the problem of centralization was mentioned along with the fact that budget officers were not concerned with interpretation of the adopted budget. Also, it was observed that there was little formal evaluation of the budget or the budgetary process.

Baldridge and Tierney (1980) presented one of the rare analyses of the use of financial and management systems in small colleges. They evaluated 34 institutions, but only looked at two techniques—management by objectives and management information systems. Their study described both techniques in depth and then presented the results of a questionnaire designed to evaluate the methods. The study was good as far as it went, but it only provided useful outcome evaluation of the two management techniques, and neither were truly financial planning models. The administrator who is considering the decision to commit the expense of instituting or expanding the organization's planning efforts is presented with little information regarding the outcomes of specific financial planning models.

The Problem

According to the literature, there is a lack of information regarding the perceptions of financial planning processes available to the administrator who wishes to establish new or modify an existing financial planning process in a small private institution. In an effort to bring some insight to this problem the objectives of this
investigation were to (a) describe current financial planning pro-
cesses in a selective number of private higher education institu-
tions in Michigan and (b) to evaluate the financial planning process
as perceived by administrators by identifying their attitudes re-
garding the worth (effectiveness and efficiency), change dimension,
and congruence, as they relate to their ratings of process charac-
teristics.

The response to the evaluation of the process will be compared
to the ratings of process characteristics as viewed by the adminis-
trators. Those processes which have favorable ratings on character-
istics, as outlined in the literature, should be rated favorably on
worth, change, and congruence.

Rationale

In a time of declining enrollments and rising costs, colleges
and universities, and particularly those in the private sector, must
plan effectively and efficiently to manage this period of reduced
financial resources. This study attempted to determine those atti-
tudes of administrators toward financial planning processes. Favor-
able attitudes toward a process are conducive for cooperation be-
tween individuals.

There is a need for cooperation within the many groups of indi-
viduals at the various administrative levels in a college regarding
the financial planning process. There is little empirical data re-
garding the attitudes of these groups toward the worth or need of a
financial planning process.
Mayhew (1979) pointed out that in addition to concern for enrollment and financial problems, there is a need in the time of crisis to be aware of the necessity for the speed of the decision-making process. With an effective and efficient financial planning model, information could be gathered rapidly to enhance the decision-making process.

Johnston (1979) stated that the arguments can be heard from within and outside education, that the present governance and planning arrangements are faulty, built as they are on a paradigm designed for another era—or at least not the present. He continued by saying that the current planning paradigms must be reexamined. There exists the possibility that the current planning models, based on the rapid growth years of the 60's, are not adequate for the period of decline presently facing institutions of higher education in the 80's. The problem is especially critical in the private sector. A few colleges have closed, but many are having to raise their tuitions to the point of becoming economically elitist institutions.

Dror (1971) stated that despite the volumes of matter dealing with planning on one level or another, there are few that develop a systematic approach to the study of planning as an administrative process. He continued by saying that if our knowledge of this basic, and often crucial, phase of organizational action is to be in line with the progress being made in other areas of administrative science; if we want to advance the study of planning as part of policy sciences; and if we want knowledge to contribute to the improvement
of the rapidly spreading practice of planning, a more systematic approach to the study of planning that utilizes a more refined concept and a more advanced research design and methods are needed. Dror (1971) continues to present his research design, the Facet Design, to aid in the study of planning. This Facet Design was used in this study of the financial planning process. The design, discussed in detail in Chapter III, was used to structure the framework to show the relationship of the parts of the financial planning process.

Plourde (1978) investigated the current status of model use for various planning activities in higher education. The results of the surveys showed that academic and financial administrators had only limited success with models.

The most important perceived institutional need for the use of a planning model is the requirement for a forecasting ability. The requirement for better data to allocate scarce resources and to improve institutional management were the next two important factors. In addition, it was found that models were used more frequently at the highest level of the organization than at the middle management level. These models, it was discovered, were seldom integrated with institutional data collection and management information systems. In Plourde's review of the literature, it was found that commentaries on the use of and status of models ranged from critiques, to critical acceptance, and to unqualified support. The purpose of his study was to examine the extent of model use, to determine the usefulness of the analytical models, and to provide information to institutions of the use of such systems.
The major shortcoming of the models investigated by Plourde was that they needed to be more interactive. The models were found to be used only sporadically or to provide defense for decisions on an as-needed basis. It was viewed as a peripheral activity to decision making and data collection. The need, as Plourde viewed it, was to integrate models into the day-to-day information and decision-making process.

The nature of this study will in some respects repeat the purposes of Plourde. It is proposed to describe the nature of current financial planning activities in private higher education in Michigan and to evaluate (determine the usefulness of) these activities as perceived by the users.

Overview of the Dissertation

The balance of this dissertation addresses the topical areas related to the problem statement. Chapter II will present a review of the literature relevant to the problem. Methodological concerns such as research setting, sampling, research design, instrument development, and statistical procedures used are covered in Chapter III. Chapter IV reports the results of the research. Chapter V presents conclusions and summary drawn from the results and the implications of the research findings for organizational analysis and future research. Examples of pertinent documents, correspondence, instruments, and validation materials are appended.
CHAPTER II

REVIEW OF SELECTED RELATED LITERATURE

The literature review in this chapter pertains to the concept and processes of financial planning. The first section of this chapter presents a definition of financial planning and discusses budgeting as a method for financial planning. The next section is a historical review of budgeting processes. This is followed by a section that deals with the budgeting practices in postsecondary education. The last part of the chapter presents the concept of computer simulation financial planning models as well as management control systems. Much of the information for the construction of the items on the independent variable in the research instrument comes from this literature. These represent examples of "good" systems, according to the literature, and contain the characteristics discussed in the first part of this chapter. These desirable characteristics which are assigned to "good" financial planning models by various authors are summarized and represent the independent variable in the research instrument. Two models or systems are presented in the appendix to aid the reader in conceptualizing a complete system. The remainder of the chapter is devoted to a discussion of ex post facto research and the case study methodology form of research.
Financial Planning

One of the tasks of financial management is to look ahead (Pringle & Solomon, 1980). Financial planning is one part of a larger planning process within an organization. Broadly it can be viewed as the representation of an overall plan for a firm in financial terms. More specifically, financial planning may refer only to the process of determining the financial requirements necessary to support a given set of plans.

The basic elements in Pringle and Solomon's concept of financial planning are the projected income statements and balance sheet. Support elements may include a cash budget, personnel budget, production budget, purchasing budget, and income and expense budgets. The final product of the financial planning process is a description in financial terms of what the firm intends to accomplish over the period of time in question.

Pringle and Solomon stated that the development of a financial plan requires good coordination and communication throughout the firm. They also contend that computer assisted planning models are extremely useful in the financial planning process.

Williamson (1975) stated that planning begins with overall goals of the organization, which clearly have financial implications, and therefore, go on to financial planning. For every set of overall goals and strategy, there are a corresponding set of financial goals and strategy and these need to be consistent with each other.
The device, Williamson continued, for establishing the financial goals to accompany a set of overall goals is a long-term budget—a projection of revenues and expenditures for at least 5 years or more and an accompanying projection of capital resources. It is this projection that conveys in dollars and cents just how the overall goals will be implemented.

The ultimate in financial projection is the use of simulation models. According to Williamson, even a very simple computerized model can be of great value, and often simple models have proven more successful than the complex models, because they are more readily understood.

These references outlined the technical aspects of budgeting and budgeting systems, but failed to embrace the full essence of the processes of budgeting and financial planning. Wildavsky (1974) most notably pointed out that budgeting cannot be disassociated from its participants. The process is political and the attention of the recent analytical approaches to budgeting have tended to emphasize the achievement of economically efficient programmatic alternative, at the expense of politically sound and acceptable policies. Wildavsky's chief concern was about allocative efficiency and rationality rather than technical efficiency.

Fremont (1975) expressed a similar idea when he stated that qualitative policy changes can be effected through the budget process only if it is recognized that decision makers at different stages of the budget cycle operate from different decision-making perspectives and therefore require different configurations of
budgetary information. For this type of approach to be implemented, efforts need to be made to develop budgeting information more appropriate for decision making at the operating level. If this is done, Fremont continued, the budget would appear to be a most appropriate mechanism for effecting resource redistribution decisions without adversely affecting the quality level of education.

It becomes clear that budgeting systems or financial planning models must produce the right type of information for those that are involved in these processes. In addition, it is necessary to realize that any approach to the budgetary process must be politically rational as well as technically efficient to be judged as an effective process.

Other issues to be concerned about when considering the budgetary processes in postsecondary education are: participation, centralization of authority, equity, information burdens, and cost, outcomes, and performance information. These five categories were presented and summarized by Caruthers and Orwig (1979).

Regarding participation, they recognize the fragmentation inherent in postsecondary education and state that balancing the diverse interests of participants is a major challenge in the development of budgets. Caruthers and Orwig do not take a stand to support either strategy but merely recognize the problem. They do conclude that continued environmental stress (in the form of collective bargaining agreements, declining enrollment, increased pressure on the availability of public resources, to list a few) higher education will face in future years is likely to focus greater attention on
the budgetary process and result in increased centralization of authority. Of the two extremes—desirability of flexibility and the necessity for accountability—perhaps neither can be adequately accommodated by a single system or model, but the sensitivity for both need to be considered.

The question of equity was balanced with diversity. It was suggested that budgeting approaches must recognize institutional differences that may require special funding consideration.

On the topic of information burdens, Caruthers and Orwig (1979) favor the Carnegie Foundation position that supports basing budget actions on the best information, the best analyses, and the best judgment of highly qualified persons. They continued by quoting Schmidthern and Glennig (1977) who stated budget processes must be designed to provide consistent data on areas of policy concern in a format that permits easy comprehension. Data that are too complex, or that pertain to areas not meriting priority attention, impede effective decision making. A process that attempts to deal with the near infinite number of potential budget issues, failing to distinguish between their priorities, is bound to be ineffective.

Their position on cost analysis was one that favors a variable costing approach rather than average costing or aggregating cost information. When cost information is aggregated it begins to lose programmatic and decision relevance.

Again their comments on outcomes and performance only present the nature of the problem. The use of outcome information is difficult in that there is a time delay between delivery of education and
the occurrence of the outcomes.

The use of outcomes information to measure performance is also difficult in that universities are more attuned to their processes and their mechanisms than they are to their consequences. It was concluded that the use of performance measures in higher education budgeting requires considerable conceptual as well as technical advances.

History of Financial Planning Models

According to the Carnegie Commission on Higher Education (1972):

From the beginning of the 1960's to about 1967-1968, not only were enrollments rising rapidly, but so was income. The pronounced increase in federal funds made available for research and development encouraged rapid expansion of research and graduate training in universities, the assumption of portions of faculty salaries by research budgets, and the acquisition of expensive and complex equipment. Foundation funds were also forthcoming on a very substantial scale during this period. (p. 28)

Salloway and Tack (1978) commented that during this period of growth and development, the individual needs of institutions were met adequately and few people were concerned with the need for complex financial planning models or systems.

During and prior to the growth phase of the 1960's, most budgeting procedures were those of the traditional nature. Some of which were assimilated from business and industry.

Caruthers and Orwig (1979) traced the origins of modern budgeting practices and found that like other administrative activities in postsecondary education it has borrowed heavily from practices of both private business and public administration. Their review
focused more on the development of public sector budgeting practice than on corporate budgeting. The rationale here was that goals of higher education are more like those of politics than those of the corporation. This concept comes from the fact that, typically, profit is not the principle goal in either public administration or college administration. College administrators, like those administrators in the public sector, often deal with conflicting goals. In spite of this ambiguity of purpose, there has been a trend during this century toward a more businesslike approach to budgeting in college administration.

Caruthers and Orwig's review of business budgeting determined that the benefits and purposes of budgeting were related to planning, coordination, and management control. The process was linked to planning in industry and helps to systematize the process. Budgeting was observed to communicate the overall corporate goals to lower managerial levels.

There were three types of budgets found to constitute the master budget: the operating budget, the case budget, and the capital-expenditure budget. The operating budget, which shows planned operations for the forthcoming year including revenue and expenses, related most directly to the types of postsecondary education budgets. It was noted that in the corporate sector the operating budget often consists of two parts, a program budget and a responsibility budget. The program budget states what the company plans to undertake during the year and is used by top management. The responsibility budget is used as a control device. It states the performance that is
expected of each manager. The appropriations type budget common in governmental budgeting was found to be used very little in business. This type of budget establishes spending limitations and when it is used in business it was found most frequently in nonproduction areas as advertising and research and development.

The approach to developing budgets in business was found to be fairly standard. Six common steps were identified, starting with the specifications by top management of corporate objectives. The formulation of plans and lists of assumptions by each department head was the next step, followed by amendment of plans and assumptions. Budget presentations to implement the reworked plans were made to top level management, approval would be granted, and directions to proceed would be given.

Caruthers and Orwig's (1979) review next moved to budget approaches in government. It was found that budgets serve three principal purposes: control spending, permit management of activities, and determine objectives. They used Schick's (cited in Caruthers & Orwig, 1979) description of three major periods of reform in public administration budgeting. These periods were best known for their respective orientations—control, management, and planning.

The Executive Budget Movement

From about 1910 through 1935 almost every state adopted some type of budget innovation that could be considered a part of the control-orientation era, or executive-budget movement.
With the growth of government came the concern for more managerial efficiency. Advisory committees were established and, drawing on their corporate experiences, a series of reforms became the executive budget movement. There were at least three concepts: (a) the chief executive considered the needs of the state in its entirety; (b) the executive standardized and consolidated agency estimates to insure the efficient conduct of business; and (c) central controls were exercised to deter wasteful or unlawful administrative behavior. This last concept led to the development of various uniform administrative procedures, including those for accounting, purchasing, and personnel.

Performance Budgeting

In a period from about 1940 to the late 1960's, characterized as the management era, interest began to shift from the use of the budget as an instrument of expenditure control to its use as a means of promoting effective management. This orientation gave rise to a new budget-planning approach—performance budgeting. The concept was no more than what had long been known as either activity or functional budgeting.

The central idea of the performance budget is that the budget process be focused on programs and functions, accomplishments to be achieved, and work to be done. Activities were treated as ends in themselves. The typical performance budget comprised activity classification, performance measurements, and performance reports.
The activity classification described the work to be done within units and followed organizational lines. The basic format of all performance measurements is the relation of inputs to outputs and that performance reports were a special type of performance measurement, retrospective assessments of what was accomplished with budgeted resources. The three components compared the actual work done with performance targets in individual work centers. The performance reports, by pointing out deviations from expected performance, identified needed management action.

Planning, Programming, and Budgeting Systems

The most recent of the three periods began with an orientation to planning in public administration budgeting. This interest was accompanied by new economic theories and an enhanced ability to analyze and assimilate data with computers and led to the development of planning, programming, and budget systems (PPBS).

PPBS was originated by the Rand Corporation in efforts to analyze military spending. This was abandoned in 1971 by the government. In more recent years another version of planning-oriented budgeting has emerged—zero-based budgeting. Both PPBS and zero-based budgeting and other methods will be described in greater detail later in this chapter.

Budgetary Practice in Postsecondary Education

Very little was recorded about budget approaches in early American higher education. Harvard's early philosophy and perhaps
that of other private colleges was that of "every tub stands on its own bottom"; each dean balances his own budget. But state colleges have tended to model their practices on experience in government.

Aspects of governmental budget reform era in postsecondary education are still in use today. Many use the position and line-item control tools of the executive budget. Formulas that resemble performance-budget workload measurements are common at state levels. Variations of PPBS or zero-based budgeting are found at a large number of institutions.

Robins (cited in Caruthers & Orwig, 1979) identified five categories of budgets: line item budgets, program budgets, incremental budgets, zero-based budgets, and formula-based budgets. It was found that incremental budgeting, formula budgeting, planning programming, and budget systems, zero-based budgeting and performance budgeting, were representative of the most frequently discussed and practiced methods today.

The selection and use of a specific approach or blend of approaches depends heavily on the type of management philosophy being used within the institution. Another factor is the economic condition facing the institution.

Incremental Budgeting

Orwig and Caruthers (1980) described this approach and four others. In this method, which may well be the oldest, each line item in a budget is evaluated for its relative need for an increment. Depending on the substance of the evaluation, there may be an
extremely high degree of coordination between planning and budgeting. Usually incremental budgeting refers to an approach where each line item receives a uniform percentage adjustment rather than an individually determined increment.

The assumptions of the incremental approach are that the relative needs and priorities among organizational entities remain unchanged from one budget period to the next and that each line item merely needs its proportionate share of any inflationary allowance. The danger in this approach is that not all exceptions will be identified and the organization is following a "squeaky wheel gets the grease" method.

The amount of information required to support this method is directly related to the degree to which an attempt is made to integrate planning and budgeting. In its basic form, the budget planner merely needs to know the current budget base of each unit and the percentage increase available to the overall institution. More advanced forms require information to determine separately needed adjustments for various objects of expenditure.

As the projected demographic trends for the 1980's impact an institution, major reallocations will need to occur. As the number of exceptions increases, incremental budgeting will prove burdensome and insensitive to the needs.

Formula Budgeting

This type of budgeting was used mainly in system or state-level settings. Miller (1964) defined the process as an objective
procedure for estimating the future budgetary requirements by manipulating data about the future programs and by utilizing relationships between programs and cost.

The two general types of formula are the base-plus-percentage method and the functional approach. With the base plus percentage the direct instructional expenditures of an institution are determined first, using a work load criteria, and defined as the base; then all other expenditures are dealt with as percentages of that base. The functional approach utilizes a separate algorithm for each function. The instruction formula may use student credit hours to establish the base and the library may base its formula on number and level of degree programs offered. The key to the approach is that resources are allocated according to criteria that have been deliberately set.

The basic problem is that most formula budgets are based in some manner on average cost concepts. Colleges feel they will not be able to reduce their costs at the same rate as their enrollments may decline, and strict adherence to the current formulas would bring financial distress. There was some indication for promise for the approach by developing new types of formulas based on fixed and variable cost concepts that relate activity levels and resource requirements better.

Planning, Programming, and Budgeting System

Orwig and Caruthers (1980) continued their review of budgetary processes with an analysis of PPBS. They used Kenworthy's (1973)
description of the process as a managerial technique designed to
merge the planning process with the allocation of funds by making
it impossible to allocate funds without planning.

PPBS pays greater attention to developing and implementing a
plan in making budget choices and has a multi-year rather than a
single-year approach. It analyzes alternatives systematically and
relies on cost-benefit ratios to establish priorities. The standard
PPBS approach involves several steps. The planning phase is where
long-range objectives are identified and selected and various
courses of action are considered in terms of cost and benefits. The
programming phase requires decisions on specific courses of action
to implement planning decisions. Budgeting involves the translation
of planning and programming decisions into specific financial plans.

PPBS is a systems approach, so that when a budget difficulty
arises that prevents implementation of a previously developed plan,
the process recycles to develop a new plan rather than seek only a
budgetary solution. In practice, it was found that PPBS usually
failed to match its theoretical design. It places greater emphasis
on planning than on budgeting techniques.

Another difficulty with the system was the amount of informa-
tion required to drive the process. It required large volumes of
data, much of which were not readily available. The most serious
problem with PPBS required overcoming several conceptual obstacles,
mainly in calculating cost-benefit ratios. The development of accu-
rate cost information was difficult but the problems of measuring
benefits are almost impossible. (The volumes of literature on PPBS

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history pointed to the attempts to manipulate benefit estimates to justify a political decision.) Again, this is an example of the misuse of the system to justify a decision after the fact.

Zero-Based Budgeting

This approach in many ways was found to be similar in concept to PPBS and follows a rationalist line of thought. Zero-based budgeting (ZBB) uses a microeconomic rather than a macroeconomic approach. It is designed to transform objectives into an efficient operating plan instead of being concerned with broad policy decision. Basically ZBB demands a total rejustification of every activity from base zero instead of considering only incremental change. In practice it was found that ZBB was more of an 80% base budgeting. Budget planners did not assume an activity could be totally eliminated but rather only a few programmatic changes were possible in any budget-planning period.

ZBB requires the development and ranking of decision packages. This process attempts to describe a discrete activity to be able to evaluate its relative priority and needs in comparison with other opportunities. The package describes the purposes of the activity, provides performance measures, and lists cost information and it may offer several alternatives. Management establishes the budget by ranking the packages in terms of marginal cost information.

ZBB was found to be flexible in that the decision packages could be designed to fit the needs or purposes of a specific agency. The planning tends to be more operational than long-range because of
the consideration of discrete activities. The information burden requirements depend on how decision packages are defined within a specific system. On a one to one package to budget unit, the information load would not be greater than that used in an incremental system. But when several packages are required per activity, the information demands increase proportionally.

Performance Budgeting

Caruthers and Orwig’s (1979) last category of budgeting approaches was one that was least well defined. It has been currently categorized as a variety of goal driven budgeting procedures.

The process attempts to allocate resources on the basis of anticipated or past results. The structure focuses on activities that produce results for which related resources can be identified. Currently the direction of the approach has been directed to qualitative and impact-oriented results rather than quantitative work load (Peterson, Erwin, & Wilson, 1977).

Information burdens created by the process include the standard financial data plus a considerable amount of results or outcomes information. Outcomes requires detail on both planned and realized performance. A major problem in linking performance to funding was found to be the time delay between the performance of the service and the evaluation of future graduates' appreciation or performance years later. The emphasis on results or outcomes presents major conceptual problems with the approach.
Lawless, Wright, and Norris (1980) commented on patterns of resource allocation in educational institutions. These systems utilized in budgeting, according to their article, rarely exist in pure forms and most institutions utilize budgeting techniques that incorporate aspects of several models.

The authors identified five general types. The first was the income model that provides each unit receives what it generates, or a pro rata share of what is allocated if administrative and other charges are absorbed in part from this source. The model is based on work load or productivity formulas and is a variation of "each tub has its own bottom."

The stipulative model was next and it is used when external agencies or legislatures stipulate the uses to which funds are to be put. It can be used by discipline or by broader funding elements.

The prescriptive model states that internal procedures, policies, or formulas prescribe the basis on which departments or programs are funded. Sometimes the formulas are based on some manner of external funding, pressures, or policies, but the institution is given a certain amount of flexibility in interpreting external forces to design its own prescription. Departments or programs are rarely distinguished from one another on the basis of mission in this model.

The incremental/historical model bases budgeting on some vague incrementation and/or historical patterns. These may have been based on income generation, stipulative, or prescriptive models in the past.
The strategic budgeting model carefully weighs departments of programs against each other as well as against some set of institutional standards and priorities. Funding is based on these weightings.

Whatever the institutional setting, strategic budgeting cannot be accomplished in all circumstances. But the following characteristics must exist for the process to successfully take place:
(a) sufficient institutional flexibility—there must be room with respect to the ways in which priorities are translated to budgets;
(b) sense of institutional mission, if working priorities are to be established; and (c) institutional will and determination; there must be a commitment to make it work. If not the system becomes an expensive gadget.

Computer Simulation Financial Planning Models

There are several definitions of computer modeling. Graham (1980) contended that a model is something that represents a real system. The model may not represent every detail of the real system, but only those that are of interest to the user. Graham continued to identify the logical or theory model. This method employs a set of statements that describes the real system. From those statements using logical reasoning, facts about the system can be deduced. Statements can take the form of mathematical equations. This then becomes a mathematical model. Computer programs can model a system directly. The program might accept the present state of the system as data and print out predictions of the state of the system at some
future time. Another possibility is that the model might accept as
data the inputs to the system to predict the state of the system at
some future time. Computer programs used to model a system become a
computer model (Graham, 1980).

Massy and Hopkins (1978), in their discussion on computer plan-
ning models, stated that the process of modeling is one of synthe-
sizing known facts, theories, and judgments into a meaningful pat-
tern. Their contention is that models are about something, and they
purport to represent an aspect of some thing that exists or might
exist.

Another aspect of modeling according to Massy and Hopkins was
that new models must be verified. That is seeing that their design
 specifications have been implemented correctly. Models must be
 validated—tested to see that the degree of approximation to the
system is adequate for the purpose at hand. The inclusion of the
right set of variables in the model is important. Too much or too
little may result in a loss of credibility.

Updegrove (1979) listed three components of a model. A model
should consist of: (a) a set of initial (exogenous) variables whose
values are specified by users of the model, (b) a set of derived
(endogenous) variables whose values are defined in terms of the ini-
tial variables plus well-defined mathematical operations, and (c) a
sequence of calculation rules (model equations) for computing values
of the initial and derived variables.

Massy and Hopkins (1979) listed six characteristics of a good
model. They found models should be: (a) simple, (b) complete on
important issues, (c) easy to control, (d) stable, (e) adaptive, and (f) easy to communicate with.

These characteristics coincide with a list of technical problems with models reviewed in the literature such as: (a) too simple, (b) too complicated, (c) too much data needed, (d) too expensive, (e) too inflexible, and (f) too much programming expertise needed in constructing the model, running the model, or changing the model.

Poulton (1974) outlined selection criteria for simulation models to be used when considering a decision to use a simulation model and the subsequent problem of choosing or building a particular model. These criteria are in four basic areas: conceptual design, functions or uses, technical requirements, and the implementation process.

No simulation model can duplicate a social system completely. Therefore, it is important to analyze the specific conceptual limitations of a given model so that the operational boundaries are recognized in advance of model development and implementation. Conceptual limits of a model specify the area where questions can be asked and the type of questions that can be asked in a given area.

The functional criteria specify the administrative uses or subject areas included in the simulation model. VanWyk and Russell (1972) identified five areas of use for which comprehensive simulation models are developed: (a) enrollment forecasting, (b) academic planning and program development, (c) facilities planning and utilization, (d) faculty and staff planning, and (e) financial planning and budgeting.
The technical criteria deal with two areas, system dimensions and computer requirements. System dimensions are determined by the number of variables included and the level of detail described by those variables. Computer requirements are determined by the level of complexity, the system dimensions, the size of the data base, and the mode of interaction with the user.

Criteria for implementation deal with the process requirements needed to develop and effectively use a simulation model. These are the commitment of adequate resources and organizational prerequisites in the institution.

Shoemaker (1973) identified six major categories of system models. They are:

1. Operational management information systems, which collect and utilize data for describing and controlling daily or periodic transactions.

2. Planning oriented management information systems, which organize and analyze information for longer range planning, such as unit costs, program costs, institutional and program goals, and research allocation.

3. Planning process models, which emphasize the structure and flow of decision-making functions.

4. Simulation modeling, which interrelates quantifiable factors of an educational system using a mathematical model in order to generate planning information and to project results of "what if?" questions.

5. Information exchange services, which act as clearing houses for institutions interested in using system models and programs.

6. Comprehensive tailored models, which may incorporate several of the above operations, but are limited in application to one unique institutional setting.

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Wyatt (1979) in a review of the state of the art in educational cost modeling listed six hypotheses regarding the use of these systems. These are: (a) decision makers who use models must be involved in their development, (b) data must be representative and reliable, (c) models must have an executive godfather, (d) models must be comfortable to their users, (e) results must be communicated with care, unbounded expectation and/or suspicion often arises with the use of computer technology, and (f) models can be used defensively, a model built around alternative scenarios can be most helpful in evaluating the consequences of alternative decisions (pp. 6-11).

Schroeder (1973) reviewed several models. Planning, Program­ming, and Budgeting System (PPBS), best defined by its name, was one of the earliest models applied to educational systems. PPBS is an output oriented budget that is organized along the lines of the outputs of the organization.

There are no successful ongoing applications of a PPBS system. This is because in order to achieve an effective PPBS system, it is necessary to measure outputs or benefits of educational programs. This is one of the most difficult problems in education today.

The Management Information System (MIS) collects, stores, and retrieves information for both planning and control functions. This includes financial and budgeting information as well as student records, enrollment data, course demand data, and facility planning data. The scope of MIS may be broad or limited depending on the particular application. MIS was generally accepted as having good potential even though the system includes extensive software.
development, programming, and file structure design efforts.

Computerized Analytical Methods in Planning University Systems (CAMPUS) is a resource allocation model that relates the inputs of the educational process to the resources required. It translates enrollment projections into demand for courses, faculty, facilities, and support activities. The required resources are then costed and aggregated for various output reports. The purpose of the model is to simulate the effects of changes in enrollment or in the "technology" of the resources required.

There are several generations of CAMPUS available, seven to be exact. Only limited usage to date has been achieved as part of an ongoing management program. This may be partially due to the fact that the system requires extensive data and programming support.

These were only a few of the many models developed and available for use in higher education. They were presented as a representative sample to outline some of the problems in and with the use of simulation modeling systems.

Characteristics of "Good" Financial Planning Processes

In the previous sections of the literature review various authors presented characteristics attributed to "good" financial planning processes. Table 1 summarizes the characteristics of "good" financial planning processes from the current literature. The authors listed those items which they felt were essential for financial planning processes to function well.
<table>
<thead>
<tr>
<th>Process Characteristic</th>
<th>Literature Source</th>
</tr>
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<tbody>
<tr>
<td>Participation of constituents</td>
<td></td>
</tr>
<tr>
<td>Low information burdens</td>
<td></td>
</tr>
<tr>
<td>Low cost</td>
<td>Caruthers &amp; Orwig (1979)</td>
</tr>
<tr>
<td>Good performance information and outcomes</td>
<td></td>
</tr>
<tr>
<td>Equity</td>
<td></td>
</tr>
<tr>
<td>Technically efficient</td>
<td></td>
</tr>
<tr>
<td>Politically rational</td>
<td>Fremont (1975)</td>
</tr>
<tr>
<td>Right type of information</td>
<td></td>
</tr>
<tr>
<td>Allocative efficiency</td>
<td>Wildavsky (1974)</td>
</tr>
<tr>
<td>Political rationality</td>
<td></td>
</tr>
<tr>
<td>Simple (usable)</td>
<td></td>
</tr>
<tr>
<td>Completeness</td>
<td></td>
</tr>
<tr>
<td>Easy to control</td>
<td>Massy &amp; Hopkins (1978)</td>
</tr>
<tr>
<td>Stable</td>
<td></td>
</tr>
<tr>
<td>Adaptive</td>
<td></td>
</tr>
<tr>
<td>Easy to communicate with</td>
<td></td>
</tr>
<tr>
<td>Institutionally flexible</td>
<td></td>
</tr>
<tr>
<td>Sense of institutional mission</td>
<td>Lawless, Wright, &amp; Norris (1980)</td>
</tr>
<tr>
<td>Institutional commitment</td>
<td></td>
</tr>
</tbody>
</table>
Some authors were not listed, because it was found that there was considerable duplication; for example, Caruthers and Orwig's (1979) good performance information and outcomes, Fremont's (1975) right type of information, and Massy and Hopkin's (1979) completeness, all reflect characteristics of completeness and adequacy of information obtained from the system. For this reason Wyatt's (1979) and Updegrove's (1979) items were not included in the table.

In addition, some characteristics imply a broader connotation than others. For example, Fremont's (1975) technically efficient could conceivably be broken down into Massy and Hopkin's (1979) simplicity, control, stability, and communicative characteristics. For the purpose of this study complex characteristics were simplified to reflect a single connotation to be used for items in the survey instrument for the section on process characteristics. For the purpose of validation a specific author's process characteristic was attributed to each item on the questionnaire (see Appendix B).

Dror (1968) identified four facets for viewing planning processes. The second of these, the subject matter of the process, was divided into master planning activities, resource allocation techniques, and program evaluation and review. This study will deal only with resource allocation techniques or financial planning processes.

In the facet design Dror attributes several general characteristics to each facet. In this study, the "good" process characteristics identified specifically for financial planning processes from the literature and summarized in Table 1 were substituted for...
Dror's general characteristics. It was felt that the more current and more specific process characteristics were more closely related to financial planning processes. Although, several process characteristics from the literature can be related to Dror's characteristics. For example, Dror's degree of penetration could be related to participation of constituents and Dror's scope of activity subject to planning matches the process characteristic of completeness. The facet characteristic on elasticity would be equivalent to the process characteristic of institutional flexibility. The significance of the subject matter from the facet design relates to completeness or right type of information from the process characteristics.

Dror (1968) stated that the subfacets of the Facet Design were not to be viewed as all inclusive or exclusive, but should serve as a "check list" of factors to be considered. He continued to elaborate that different planning situations might require the generation of different subfacets. For this reason and the fact that some of the process characteristics relate to Dror's subfacets, the process characteristics were chosen to represent the Dror's subfacets for items on the questionnaire.

Ex Post Facto Research and Case Study Methodology

There appears to be some semblance of agreement in the literature regarding the merits and limitations of ex post facto research methodology, be it defined as case study, field research or studies, descriptive or historical.
Ary, Jacobs, and Razavieh (1972), Franklin and Osborne (1971), Kerlinger (1973), Schatzman and Strauss (1973), and Seltig, Wrightsman, and Cook (1976) all speak to the topic. They coincide in that the methodology has merit and can provide useful information in research studies in the fields of sociology, psychology, and education. They also are unanimous to caution on the use of the technique. It was pointed out that the procedure should be used when no other is applicable for a given situation. In addition, a warning was given with regard to the nature of the interpretation of the data gleaned from studies using these techniques, especially when not guided by a hypothesis.

Ary et al. (1972) spoke to descriptive research methods such as the case study, developmental study, follow-up study, documentary analysis, and trend analysis. In these and other types of ex post facto research the independent variables are not within the control of the investigator, although the measurement and sampling can usually be controlled.

Because of the inability of the researcher to manipulate the independent variable or randomize subjects, the interpretation of findings may be particularly hazardous. Extreme caution should be used in generalizing results. Perhaps the best relationship that could be drawn from ex post facto studies might be functional rather than causal. A functional relationship would be one that had demonstrated that a change in one variable was accompanied by a change in another, but the relationship is probably based on a complex system of interactions rather than being directly causal.
Kerlinger (1973) stated that field studies are ex post facto scientific inquiries aimed at discovering the relationships and interactions among sociological, psychological, and educational variables in real social structures. Field studies can be divided into two types: exploratory and hypothesis testing. The exploratory seeks what is, rather than predicts relations to be found. He continued by stating that exploratory studies serve three purposes: (a) to discover significant variables in the field situation, (b) to discover relationships among variables, and (c) to lay the groundwork for later more systematic rigorous testing of hypotheses.

Kerlinger weighed the strengths and weaknesses of field studies. Among the strengths he found that they were strong in realism, social significance, strength of variables, theory orientation, and neuristic quality. The weaknesses included those inherent in ex post facto studies as well as lack of precision in measurements due to the greater complexity of field situations. Other problems include: feasibility, cost, sampling, and time. Despite the problems and weaknesses Kerlinger stated sound, well-designed ex post facto techniques have provided good research in the past and will continue to do so in the future.

Foreman (1971), on the theory of case studies, concluded that used in sociological study any of the following, taken singly or in combination, may be suitable for case study techniques: (a) a person, (b) a group of people, (c) a class of persons, (d) an ecological unit, or (e) a cultural unit. He also stated that there were five major ways in which case materials could be used in research.
They may serve the purposes of: (a) illustration, (b) concept and hypothesis development, (c) hypothesis testing, (d) prediction or postdiction, and (e) methodological testing or refinement. He also warned about the nature of generalizations made from these studies, but concluded that with careful interpretation and good research design these techniques were sound research tools.

Schatzman and Strauss (1973), on the logic and social psychology of field research, stated:

As with methodology, so with substance. The field researcher views the substance or reality of his field research in creative emergent terms: it is neither fixed nor finite, nor independent redefinition; therefore, it is not "all there," needing only to be located, measured and then rendered as findings. (p. 7)

The researcher assumes reality to be infinitely complex—certainly more complex than any current rendering of it—and that he as an observer holds the key to an infinitely varied relation with the objects of his inquiry. Therefore, the researcher's developed understanding of his object is not necessarily or merely "true" or "untrue"; rather it is to be evaluated according to its usefulness in furthering ideas about this class of object and according to whether the understanding is grounded in data. They continued by saying more important to the researcher than "nailing it down" is "linking it up" logically, theoretically, and empirically to other findings or discoveries of his own and others. What the researcher does need is some theoretical perspective or framework for gaining conceptual entry into his subject matter, and for raising relevant questions.
Field research, according to the literature, provides a valid research technique for studying educational settings in which the variables are not controllable and the subjects not easily randomized. The measurement need be controlled and there should be some theoretical framework to base the investigation on. Careful design and caution when interpreting findings can produce a value investigation.

Summary

This chapter has presented a review of literature as it relates to the concept and process of financial planning. Many characteristics and attributes were identified for a "good" system for the process of financial planning. Some of these items will be used as part of the instrument to evaluate the perceptions of administrators on the characteristics regarding their financial planning processes.

Chapter III presents the methodology of the research and a discussion of Dror's Facet Design. Chapter IV reports the results of the research. Chapter V presents conclusions and summary drawn from the results.
CHAPTER III

DESIGN AND METHODOLOGY

This chapter describes the design of the study. It contains the research setting, type of design as designated by the nature of the problem, the population, and the sample, as well as the selection procedures, instrumentation, data collection procedures, and the data analysis procedures.

The Research Setting

The study included all the Michigan private, liberal arts, co-ed, four-year colleges with enrollments of over 600 students. This size was chosen to provide a population of 10 or more administrators for statistical analysis. This represented seven of the 35 private institutions in the state.

Population

The populations for this study included all of the administrators within each institution selected to be in the study. The list was made up of department chairs, directors of programs, deans, central administration directors, vice-presidents, and presidents from each college in the study. This information was obtained from each institution as part of the initial contact.
Dror's Facet Design

This concept adapted by Dror (1968) from a research design originally developed by Louis Guttman will be used to frame this study. The faceted design breaks down complex processes into easily conceptualized units and subunits.

Dror (1968) defined planning as "the process of preparing a set of decisions for action in the future, directed at achieving goals by optional means" (p. 106). He presented a four-faceted design for observing the planning process: the general environment of the planning process, the subject matter of the planning process, the planning unit, and the form of the plan to be arrived at. These four facets lend themselves to an operational design for the study of any planning process. The following structure can be created for viewing planning processes by taking Dror's paradigm into consideration (see Figure 1). This general sequence was used in designing the study.

The primary facet, general environment of the planning process, consists of four subfacets that serve to describe the general environmental factors that surround the process. The first of these subfacets was the basic environmental factors which constitute the physical, demographic, ecologic, social, cultural, geophysical, and geoeconomic conditions which are the general background in which the financial planning process takes place. The second subfacet was the resources in manpower, knowledge, and capital, which are potentially available for the process. The third subfacet was the various

Figure 1

A Structure for Viewing Planning Processes
values, power groups, and ideologies which limit the alternatives to be considered by the planning process. These are in terms of methods that can be used for the plan execution, of conditions that are required for recruiting the necessary support for the process, and of the actual resources that will be put at the disposal of the plan execution. The last subfacet included general goals set for the process; contextual goals, that is, values and sacred cows which should not be impaired; and basic directions concerning some aspects of the working methods to be used during the planning process.

The facet, general environment, provides the structure for the description of the financial planning process in this study. The general environment subfacets were used to formulate the questions to obtain information for the initial description of the financial planning process in each of the institutions in the study.

The second primary facet, the subject matter of the process, consists of master planning activities, resource allocation techniques, and program evaluation and review. This study will deal only with resource allocation techniques or financial planning processes. The "good" characteristics for these processes found in the literature relate specifically to the subject matter of financial planning processes. These characteristics will be used for items in the questionnaire for the independent variable (see Table 1).

The third primary facet, the planning unit, described the basic nature of the unit, the status of the unit, the resources and means at the disposal of the unit, and the organizational structure of the unit.
The third primary facet was also used to structure the description of the financial planning processes used in this study.

The last primary facet, the form of the plan, consisted of the realism of the plan, the form of the plan, and the degree of the details of the plan. This last facet was modified by Poulten (1974) to represent a concept for an evaluation of the planning process. Questions concerning this realism facet deal with changes in the organization due to the use of the process, congruence with the expectations held for the process initially and the administrative style, and the worth (effectiveness and efficiency) of the process.

The three categories mentioned above will be examined as the realism of the plan. These will be the concept of change, congruence, and worth. They will represent the dependent variable and are defined as:

1. Change dimension. This represents perception of any positive change in the decision-making and organizational processes as a result of the financial planning process.

2. Congruence dimension. This will be considered to be with the initial expectations held for the process and congruence of the process with the administrative style of the institution.

3. Worth dimension. These will be perceptions of effectiveness and efficiency. The provision of timely and useful information.

Items in the questionnaire for these three dimensions were taken from studies by Baldridge and Tierney (1980) and Poulten (1974).
Research Design

The case study research design fits the requirements for this type of descriptive activity. The research was conducted in two phases.

The first phase consisted of the initial contact with the institution chosen for the study. At that time permission to perform the study and information relating to the organization's financial planning process was requested. This information was obtained from the institution's chief financial officer. The material was used to form the case and provide the description of the general environment of the financial planning process for each institution in the study. The first primary facet of Dror's (1968) design, general environment, was used to structure the questions for this process (see Appendix A).

The second phase was to survey central administrators, deans, chairpersons, and program directors on their perceptions of their financial planning process. The survey consisted of two sections, the first on the independent variable, the characteristics of the process. The second section on the dependent variable perceptions of the financial planning process based on Dror's fourth facet the realism of the plan and using dimensions on change, congruence, and worth (see Appendix B).

The data was compiled to provide an analysis of each individual institution's financial planning process. Statistical analysis was performed to establish a correlation between the independent
variable and the dependent variables. The score on the independent variable was correlated with each of the dependent variables—change, congruence, and worth.

Instrumentation

This section will describe formulation and validation of the survey instrument and the questions for the description of the general environment of the financial planning process.

The facet design of planning used in this investigation was intended to provide the basis for a descriptive analysis of financial planning situations, rather than a true empirical study. The questions for the instrument were generated from the literature on financial planning. The purpose of the survey was to evaluate the perceptions of planning process as perceived by administrators.

The questions for the description of the financial planning process were formulated from a combination of Dror's Facet Design, the general environment facet, and the related literature that established the information needed to present a description of a financial planning process. This section of the instrumentation was not submitted to the validation panel for the validation process. The use of the related literature and Dror's Facet Design establish the content for this section. A table is presented in the appendices to establish the validity of these items. (See Appendix E).

The survey questions containing the items on the dependent and independent variables were submitted to a panel of individuals,
chosen for their expertise in financial planning in higher education, for validation.

For the purpose of this study the survey questionnaire responses for the items on the dependent variable were measured by a summed score scale (Likert-type). Rules for the development of such scales suggested by Thorndike and Hagen (1969) were used in construction of the instrument. These rules for the construction of attitude scales, which attempt to express an individual's attitude with respect to a problem or issue on a single dimension of favorableness-unfavorableness, and to quantify that attitude in a single score, are:

1. Basic statements are formulated to avoid neutral interpretations. Each statement is unequivocally either favorable or unfavorable.

2. A 5-point scale ranging from strong agreement to strong disagreement is provided for each statement.

3. The questionnaire is scored by giving 5 points for strong endorsement of an unfavorable statement, 4 points for disagreement, 3 points for uncertainty, and so forth.

4. Scoring is reversed for the unfavorable statements.

5. Items nor correlating well with the total score on the scale can be weeded out to establish a more efficient and reliable scale.

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6. An individual raw score is the sum of his scores for the separate items.

The dependent and independent variable component of the instrument consisted of a group of questions whose content was related to the financial planning process in higher education and utilized the standard Likert format with a 5-point response scale. The possible responses ranged from strongly agree to strongly disagree.

Quality Indicators

Fifteen attitudinal items were generated for the change dimension of the instrument, 15 attitudinal items for the congruence dimension of the instrument, and 27 attitudinal items for the worth dimension, resulting in a total of 57 items. These were submitted to a validation panel consisting of Nick Poulton, Director of University Planning at Western Michigan University; Jack Asher, Director of Institutional Research at Western Michigan University; Robert M. Beam, Director of Budgets and Financial Planning at Western Michigan University; and John Lore, President of The Michigan Private Colleges Foundation, Inc., who were asked to evaluate the items on the basis of the following criteria:

1. Clarity: Is the statement clear and concise?

2. Redundancy: Is the item redundant in relation to the context of the other items?

3. Appropriateness of dimension placement: Is the item placed correctly according to the dimension specified at the beginning of each of the three groups of statements?
4. **Favorability:** Does a response of strongly agree indicate a positive or negative attitude toward a financial planning activity?

5. **Response stimulus:** Is the item a proper stimulus for a strongly agree or strongly disagree response?

6. **Context validity:** Does the statement relate to the change, congruence, or worth concepts of planning as operationalized in the current literature?

7. **Inclusion:** Does the statement possess sufficient validity to be included in the instrument?

8. **Importance:** This criterion was a rating of the importance of the items judged acceptable for inclusion relative to the other items pertaining to the same dimension.

Specific instructions provided to the validation panel are shown in Appendix C.

**Specifics of the Survey Instrument**

The pilot test instrument was derived from 57 items submitted to a validation panel. It consisted of 14 attitudinal change related component items, 16 attitudinal congruence related component items, and 17 attitudinal worth component items, for a total of 47 items. Ten items were eliminated on the basis of the evaluation of the validation panel.

**Change component:** This section consisted of 14 items. The range of scores was 1 to 5 with a maximum score for each item of 5 points and midpoint score of 2.5. The scoring was designed such that a maximum cumulative score would indicate a strong disagreement
toward positive change as a result of the use of a financial planning process.

The attitudinal items (strongly agree to strongly disagree) were grouped together for the ease of response. However, they were arranged in a random fashion to minimize the possibility that subjects would respond in an image-enhancing manner.

Congruence component: This section consisted of 16 items, each of which had five possible responses. The maximum score of 5 points for each of these items would indicate a strong disagreement with the congruence of the financial planning model and administrative style and prior expectations. These items were grouped together for the ease of response, but arranged randomly to minimize the possibility of biased response set.

Worth component: This section consisted of 17 items, each of which had five possible responses. The maximum score of 5 points for each item and the extreme attitude toward the worth of the planning in general indicated by a maximum cumulative score was the same as for the previous component scales.

The decision rules for item retention were agreement on the part of three out of the five panelists for Criteria 1 through 7, and a mean of 1.5 for Criterion 8. Reliability was established through pilot testing and statistical analysis and is discussed under Pilot Test.
Pilot Test

The purpose of the pilot test was to establish administration procedures, to determine the probable reliability of the instrument in the study, and to ascertain that the instrument could discriminate among respondents. Subjects for the pilot test were the members of the administration at Nazareth College.

Statistical analysis procedures consisted of computations of: (a) standard deviations, (b) item and test scores, (c) means, (d) item total correlation, and (e) estimate of alpha reliability (Cronbach, 1970).

The following were established as decision rules for item retention:

1. Absolute frequency 20% maximum in neutral category.
2. Reliability coefficient .6 minimum.
3. Inter-item correlation .30 maximum.
4. No negative item total correlations.

Results of the Pilot Test

Analysis of the pilot test data was based upon 16 cases. The range of scores and the variability of the scores among the pilot sample demonstrated that the instrument discriminated among respondents.

Seven items were eliminated as a result of item analysis reducing the number of items from 63 to 56 (15 worth, 13 change, 14 congruence, and 14 characteristic items). All seven items
eliminated demonstrated a negative item-total correlation. Statistical analysis of the 56 remaining items resulted in an estimated general alpha reliability coefficient of .82 for worth, .82 for congruence, .78 for change, and .80 for the characteristics section. Inter-item correlations had a range of means from .14 to .19, an item range of 1.2 to 1.5, and a variance range of .088 to .092. The correlations demonstrated sufficient item independence to warrant finalizing the instrument.

Data Collection Procedures

Permission to conduct this study was secured from the Committee on Human Subjects of the Department of Educational Leadership at Western Michigan University. In addition, permission to conduct the study was secured from the Office of Financial Affairs from each of the institutions included in the study. Each chief academic officer was informed of the general nature and the purpose of the study, and the fact an investigator would be gathering data from administrators in the organization.

During the month of April 1982, an instrument package was delivered to each administrator in the study. The package consisted of a cover letter, a copy of the instrument, and a stamped, self-addressed envelope for the return of the completed instrument. The cover letter described the general nature of the study and requested that the individuals cooperate by completing and returning the instrument within 10 days. Instructions for completing the instrument were printed on the instrument itself. Copies of the cover letter
and the final instrument are shown in Appendix D. The instruments were coded by college, department, and subject for the purposes of processing, coding, and follow-up of nonrespondents. At the end of the 10-day period, nonrespondents were contacted by telephone and asked to complete and return the instrument at their earliest convenience. The procedures described above were identical for the pilot test and the administration of the final instrument.

Nonrespondents were contacted and asked for the reasons for not completing the questionnaire. This was done to determine if any bias was present in the group.

Data Analysis

The information from the study will be summarized and analyzed for each separate institution involved in the investigation. The summary will take the format as outlined in Dror's (1968) design for viewing planning activities. Included in the summary will be the results of the survey questionnaire on the evaluation of the perceptions of financial planning activity for each institution. The survey results will be broken down by institution.

Statistical procedures: Based upon the review of related literature, the following research hypothesis was established for the study: There will be a direct relationship between the perceptions of change, congruence, and worth of a financial planning process and the desirable characteristics of that process, as identified in the literature, for each separate institution.
Null hypotheses: Based upon the research hypothesis, the following null hypotheses were established:

The Pearson correlation coefficient for the relationship between scores on the perceptions of change and the process characteristics will equal zero.

The Pearson correlation coefficient for the relationship between scores on the perceptions of congruence and the process characteristics will equal zero.

The Pearson correlation coefficient for the relationship between scores on the perceptions of worth and the process characteristics will equal zero.

Each null hypothesis was tested at the .05 level of significance using the Pearson correlation coefficient.
CHAPTER IV

RESEARCH FINDINGS

This chapter presents demographic data pertinent to the sample respondents, characteristics of respondents by institution, and the results of hypothesis testing which includes a description of each institution's planning process and demographic information. The principal hypothesis was tested using the Pearson correlation coefficient. The hypotheses were tested at the .05 level of significance.

Characteristics of Respondents

Of the seven original institutions chosen for the investigation only four were utilized in the study. One institution asked not to participate in the survey because of anticipated complications with faculty union activities. The other two institutions did not fulfill the criteria for the study. Their financial planning did not involve participation below the vice-presidential level.

The selected sample consisted of all full-time administrators from four private colleges (N = 131). By the end of the 10-day return period, 70 instruments had been returned (53%).

The follow-up was conducted by telephone. The nonrespondents were politely asked if they would fill out the questionnaire and return it. This produced an additional 21 instruments for a total of 81 (69%). (See Table 2.)
The remaining nonrespondents indicated that they either were too busy or it was their practice not to respond to questionnaires. A random sample of 15 of the remaining nonrespondents revealed no contaminating pattern with regard to failure to complete and return the instrument.

Examination of the data on the nonrespondents indicated no uniform bias was present in this group. It is felt that the respondents are a representative sample of the population of private college administrators in the institutions investigated.

The return rate for the four institutions ranged from 63% to 84% with C highest at 84% and D lowest at 63%. Babbie (1973) stated that return rates as low as 50% for survey instruments were acceptable. The percentage return indicated in Table 2 are all well above that point.

### Table 2: Questionnaire Return Data

<table>
<thead>
<tr>
<th>Institution</th>
<th># of questionnaires sent</th>
<th># returned</th>
<th>% return</th>
<th>Follow-up</th>
<th>Total %</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>25</td>
<td>13</td>
<td>52</td>
<td>3</td>
<td>67</td>
<td>16</td>
</tr>
<tr>
<td>B</td>
<td>34</td>
<td>14</td>
<td>41</td>
<td>8</td>
<td>65</td>
<td>19</td>
</tr>
<tr>
<td>C</td>
<td>37</td>
<td>26</td>
<td>70</td>
<td>5</td>
<td>84</td>
<td>26</td>
</tr>
<tr>
<td>D</td>
<td>35</td>
<td>17</td>
<td>49</td>
<td>5</td>
<td>63</td>
<td>14</td>
</tr>
</tbody>
</table>

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The last column in Table 2 is the number of returns that were used in the statistical analysis. All surveys with missing data or those that were incomplete were excluded from the study.

Characteristics of Respondents by Institution

Tables 3, 4, and 5 represent a profile of respondents by institution. The data from Table 3 indicate the percentage of respondents by position. Table 4 is the number of years in the respondent's present position, and Table 5 is a summary of the number of years of the respondents at the institution. These data are included to provide a description of the characteristics of the respondents. This will aid the reader in making comparisons with other research and also help future researchers in making comparisons with their results.

Table 3
Percentage of Respondents by Type of Position

<table>
<thead>
<tr>
<th>Institution</th>
<th>President/vice-pres.</th>
<th>Dean</th>
<th>Department chair</th>
<th>Program director</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F  %</td>
<td>F  %</td>
<td>F  %</td>
<td>F  %</td>
</tr>
<tr>
<td>A</td>
<td>1 6.3</td>
<td>1 6.3</td>
<td>7 43.7</td>
<td>7 43.7</td>
</tr>
<tr>
<td>B</td>
<td>3 15.8</td>
<td>1 5.3</td>
<td>8 42.1</td>
<td>7 36.8</td>
</tr>
<tr>
<td>C</td>
<td>3 11.5</td>
<td>1 3.8</td>
<td>17 65.4</td>
<td>5 19.3</td>
</tr>
<tr>
<td>D</td>
<td>4 28.6</td>
<td>-</td>
<td>6 42.8</td>
<td>4 28.6</td>
</tr>
</tbody>
</table>

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### Table 4

**Respondents' Years in Present Position**

<table>
<thead>
<tr>
<th>Institution</th>
<th>1-5 years</th>
<th>6-10 years</th>
<th>11-25 years</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>%</td>
<td>F</td>
</tr>
<tr>
<td>A</td>
<td>13</td>
<td>80.0</td>
<td>2</td>
</tr>
<tr>
<td>B</td>
<td>10</td>
<td>52.6</td>
<td>8</td>
</tr>
<tr>
<td>C</td>
<td>9</td>
<td>34.6</td>
<td>6</td>
</tr>
<tr>
<td>D</td>
<td>7</td>
<td>50.0</td>
<td>6</td>
</tr>
</tbody>
</table>

### Table 5

**Respondents' Years at Institution**

<table>
<thead>
<tr>
<th>Institution</th>
<th>1-5 years</th>
<th>6-10 years</th>
<th>11-25 years</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>%</td>
<td>F</td>
</tr>
<tr>
<td>A</td>
<td>2</td>
<td>13.3</td>
<td>8</td>
</tr>
<tr>
<td>B</td>
<td>4</td>
<td>21.1</td>
<td>4</td>
</tr>
<tr>
<td>C</td>
<td>1</td>
<td>3.8</td>
<td>2</td>
</tr>
<tr>
<td>D</td>
<td>3</td>
<td>21.4</td>
<td>3</td>
</tr>
</tbody>
</table>

The profile of the percentage of respondents by position demonstrates what would be expected to be found in a typical college as included in this study. There would be few respondents in the positions of President/Vice-President and Dean, while most of the respondents would fall in the categories of Department Chair or Program Director. Institution C had fewer respondents in the Program
Director category and a corresponding increase in Department Chairs.

The data on respondents' years in present position indicate in each case except Institution C that at least 50% of the respondents were in their present positions 5 years or less. In Institution C the respondents have been in their positions the longest.

The data from Table 5 show that 89% of the respondents from Institution C have been at that institution 11 to 25 years. The other institutions had more respondents with under 10 years at their respective colleges.

Institutional Profiles and Financial Planning Processes

The information for this section was obtained from structured interviews with the Chief Financial Officer of each institution in the study. The questions used for the interview are found in Appendix A.

This section will present demographic data about the institution. This will be followed by a profile of the financial planning process.

Institution A was founded in 1897 and organized as a private Catholic women's liberal arts school. During 1914-1918 junior college level courses were offered until 1924, when it became a four-year college. Control changed to an expanded board of trustees in 1966 and the college became co-ed in 1971. The college still maintains its strong religious orientation. This college is located in a suburban setting in a community with a population of 124,000. The
main financial support comes from tuition, fees, and investment income. The faculty of approximately 55 consists of 37% Ph.D.'s and 85% terminal degrees in their professional field of study. The enrollment consists of 600 students of which 95% are Michigan residents. Approximately 50% are of the Catholic religion.

The financial planning process originates at the president's office where goals are set for the coming years. These priorities are set in conjunction with the Executive Vice-President, Vice-President of Academic Affairs, Dean of Student Life, and Financial Officer. These are transmitted down to each department head during the yearly budget process. The department heads complete their budgets and projections. The Financial Officer reviews the budgets and projections and then meets with the department heads and executives to complete support details, documents, and worksheets. There is a final administrative review and the package is forwarded to the Board of Trustees.

This present financial planning process has been in use for the past 6 years. It has a top down structure based primarily on the annual budgetary process. It was designed and implemented in conjunction with the President, Vice-President, and the Chief Financial Officer. It is not a computerized process. It is well organized, but has limited faculty input or visibility.

According to the Financial Officer, there are adequate resources available in the form of manpower, capital, and knowledge to operate the process. There were no apparent power groups, values, or ideologies which would limit the process in terms of the decision...
alternatives to be considered. Although the fact that the institution has a strong religious heritage and is selective with respect to its students' GPA, this might limit some possible alternatives.

A review of this institution's financial status of a period of years indicated a very effective process. It reflected a turn around from a loss operation to profit. This coupled with changes in the governance structure, student population, and innovative use of the physical plant provides an obvious change aspect over a period of years at the institution.

Institution B was founded in 1886 by area Presbyterians as a private coeducational liberal arts college. It is located in a rural community of 10,000. The college maintains its association with the Synod of the Covenant and Michigan Presbyterian Churches, and this is reflected in current goals. The enrollment of 1,200 is mainly in-state with a small international population. The present faculty consists of 70 members of which about 70% are Ph.D.'s.

Financial support consists of tuition, fees, and contributions and endowments. This college had the largest endowment of the four colleges in the study.

The financial planning process combines the budgeting process and a presidential coordinated planning committee. It was designed and implemented by the President and Vice-President. The budget data were collected and compiled by the Vice-President's office from input from the various department heads. The financial planning was done at the Dean's and Vice-President's level.
The resources available for operations of the process are adequate and there are no power groups or ideologies which limit the process, according to the Financial Officer. But, again, this institution maintains a strong religious philosophy and is selective in its choice of students, as reflected by the high GPA of incoming freshmen. These considerations might limit some possible alternatives in the decision-making process regarding financial planning.

The process was not computerized and does not result in a multi-year plan, although the President's planning committee, which deals primarily with academic matters and physical plant, does operate on a 10-year plan. The overall impression was of a well structured top-down process, with no faculty or student input and low visibility.

**Institution C** was founded by the Christian Reform Church in 1876 and is presently located on a 165 acre suburban estate on the edge of a city with a population of 185,000. The new campus was planned as a unit before the first buildings were completed in 1960 and continued growth to date. It is a primarily liberal arts co-ed college shaped by the philosophy of the Christian Reformed standards.

The college is governed by a single board of trustees, which represents the ecclesiastical divisions of the church, arranged on geographical lines.

Financial support was made up of tuition and fees (74%) and church quota receipts from Christian Reform families (20%). The enrollment of about 4,000 was 57% in state, 32% U.S. out of state, and 11% international. The faculty of 200 consists of 75% Ph.D.'s.
The financial planning structure, the best organized and functional of the four institutions studied, has been in operation since 1976. It is presently in its second 5-year plan. The process was implemented by the President and administrative staff. The structure consisted of six planning task forces: (a) enrollment planning, (b) funding sources, (c) academic program development, (d) academic support services, (e) faculty scholarship and development, and (f) student life and services. Each task force was made up of representatives from administration, faculty, students, and trustees. The task forces were provided with specific presidential mandates. The task forces report to the priorities committee, which develops a 5-year plan to guide the college. All the committees and task forces were constructed so to provide balance and resource in terms of manpower and knowledge. The results are in the form of specific mandates goals reflecting the mission and purpose of the institution. The process was highly organized and structured with large campus visibility. The process is open for faculty and student input.

As with the previous institutions, the resources were found to be adequate to operate the process. In addition, there were said to be no power groups or values and ideologies to limit the process. But, again, it must be mentioned that the strong religious orientation, plus the very selective admission policies, might affect the possible alternatives in the decision making regarding the financial planning of the institution.
Institution D was founded in 1866 by Dutch settlers to meet their educational needs. Today it is a private four-year coeducational college affiliated with the Reform Church in America and maintains its strong religious heritage. The college is located in a residential area, in a community of 30,000.

Financial support was made up of 74% tuition and fees; 10% contributions from the church, alumni, parents, and industry; and 4% endowment.

The faculty of 150 has 75% Ph.D.'s or other terminal degrees. The enrollment of 2,460 consists of 50% in state, 40% out of state, U.S., and 10% international. The financial planning consisted of a budgeting and projecting process aided by a computer system. This computer aid was in the form of a prepackaged program referred to as Visa CalK and is a financial planning program which allows the user to make multi-year projects based on an input of variables of tuitions, projected enrollment, contributions, endowment, and anticipated expenses. The output results in 5-year plans with periodic updates. The budgets are built at the department level by department chairs. The material is revised by the deans and supervisors and sent to respective vice-presidents and then is forwarded to the Business Manager. Department heads, deans, and vice-presidential priorities are all sent up to the Vice-President for Finance. The budgets, priorities, and enrollment figures are combined with the aid of the computer and produce 5-year projections and 5-year financial forecasts. Goals are built into the 5-year plan. These include mainly building and salaries.
The resources for operation of the planning process were adequate. There were no power groups or values and ideologies to limit the process. As in the other institutions this college has a strong religious orientation and maintains selective admission requirements that might possibly limit the alternatives to be considered in the financial planning process.

The impression is of a well structured and organized process, but with low faculty and student input and visibility.

Hypothesis Testing

The research hypothesis stated that there would be a direct relationship between the perceptions of change, congruence, and worth of a financial planning process and the desirable characteristics of that process as identified in the literature, for each of these separate institutions. The corresponding null hypothesis stated that the Pearson correlation coefficient between the scores of the three dimensions and the score of desirable characteristics would equal zero. The results of the analysis of total scores for each institution are presented in Tables 6 and 7.

The tables show that all institutions with the exception of D had moderate to high positive correlations that were significant at .05. Institution D demonstrated positive correlations, but only the relationship between process characteristics and worth was significant at .05.

An examination of the means and ranges of scores on all variables shows that in each case the respondents were below the
Table 6

Mean, Standard Deviation, and Range of Scores for Characteristics, Worth, Change, and Congruence

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Worth</th>
<th>Change</th>
<th>Congruence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Possible range</td>
<td>14-70</td>
<td>15-75</td>
<td>13-65</td>
</tr>
</tbody>
</table>

Institution A

\[ \bar{x} = 32.7 \]
\[ \text{range} = 27-49 \]
\[ \text{SD} = 5.6 \]
\[ N = 16 \]

Institution B

\[ \bar{x} = 31.1 \]
\[ \text{range} = 21-45 \]
\[ \text{SD} = 6.1 \]
\[ N = 19 \]

Institution C

\[ \bar{x} = 29.2 \]
\[ \text{range} = 18-42 \]
\[ \text{SD} = 6.1 \]
\[ N = 26 \]

Institution D

\[ \bar{x} = 30.4 \]
\[ \text{range} = 22-45 \]
\[ \text{SD} = 6.3 \]
\[ N = 14 \]
Table 7

Pearson Correlation Coefficients

<table>
<thead>
<tr>
<th>Institution</th>
<th>Worth</th>
<th>Change</th>
<th>Congruence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Institution A</td>
<td>( r = .54 )</td>
<td>.76</td>
<td>.64</td>
</tr>
<tr>
<td></td>
<td>( p = .018^* )</td>
<td>.001*</td>
<td>.005*</td>
</tr>
<tr>
<td>Institution B</td>
<td>( r = .70 )</td>
<td>.48</td>
<td>.69</td>
</tr>
<tr>
<td></td>
<td>( p = .000^* )</td>
<td>.018*</td>
<td>.001*</td>
</tr>
<tr>
<td>Institution C</td>
<td>( r = .77 )</td>
<td>.47</td>
<td>.60</td>
</tr>
<tr>
<td></td>
<td>( p = .000^* )</td>
<td>.008*</td>
<td>.001*</td>
</tr>
<tr>
<td>Institution D</td>
<td>( r = .60 )</td>
<td>.24</td>
<td>.42</td>
</tr>
<tr>
<td></td>
<td>( p = .012^* )</td>
<td>.204</td>
<td>.065</td>
</tr>
</tbody>
</table>

\( r = \) Pearson Correlation Coefficient.

\( ^* \alpha = .05 \). These figures are significant.

midpoint of the possible range of scores. In this study a low score on the survey represented a favorable response on all variables.

In conclusion, it can be stated from this study that there is a direct correlation between the perceived good characteristics of a financial planning process in the institutions in this study and the perceptions on the dimensions of worth, change, and congruence. Generally, with the exception of Institution D, there were more respondents that were favorable to the planning process characteristics.
and also happy with the worth (efficiency and effectiveness), the change aspect, and the congruence of the process. With direct correlation the converse can be stated, that those that saw less favorable planning process characteristics felt that the process had less worth, change, and congruence.

In Institution D there were positive correlations for the variables, but only worth was significant at .05 indicating that there were fewer respondents that rated the other variables favorably. It is possible that while they were favorable about the process and its worth, they failed to see it as a change process or that it was congruent with that institution's mission and goals. The change dimension was defined and measured as any positive change in the decision-making and organizational process as a result of the financial planning process. The congruence dimension was defined and measured as congruence of the process with the administrative style of the institution.

Summary

This chapter has presented demographic data pertinent to the sample respondents, characteristics of respondents by institution, and the results of the hypothesis testing. There was a description of each of the institution's planning processes and demographic information. This information was included for the purpose of comparison with present and future studies. The principal hypothesis was tested using the Pearson correlation coefficient. The hypotheses were tested at the .05 level and found to be significant in
each case with the exception of the change and congruence variables in Institution D. Although those variables were positively corre-
lated.

Chapter V will present a discussion of the investigation and its findings. This will include sections on interpretations of find-
ings, implications of findings, and recommendations for future re-
search.
CHAPTER V

DISCUSSION

Chapter V presents a discussion of the investigation and its findings. The discussion is organized into the following topical areas: Review of the Research Problem and Procedures, Interpretation of Findings, Implications of Findings, Recommendations for Future Research, and Conclusions.

Review of the Problem and Procedures

This investigation was undertaken in the context to broaden our knowledge of the financial planning processes in private higher education. The present study attempted to describe the current processes of financial planning in use in selected institutions of private higher education in Michigan and to evaluate the process as perceived by administrators by identifying their attitudes regarding the dimensions of worth, change, and congruence, as they relate to their ratings of process characteristics.

The review of literature presented in Chapter II focused on the concept and processes of financial planning. This included a definition of financial planning as well as a historical review of the processes. In addition, the desirable characteristics which are assigned to "good" financial planning processes by various authors were summarized.
The concept of change, congruence, and worth represented the dependent variable and are defined as:

1. **Change dimension**: This represents perception of any positive change in the decision-making and organizational processes as a result of the financial planning process.

2. **Congruence dimension**: This will be considered to be with the initial expectations held for the process and congruence of the process with the administrative style of the institution.

3. **Worth dimension**: These will be perceptions of effectiveness and efficiency. The provision of timely and useful information.

The characteristics of the financial planning process represented the independent variable and were taken from the current literature.

Methods used to carry out the investigation were described in Chapter III. The population consisted of all administrators from selected private colleges in Michigan.

An instrument was developed to evaluate perceptions on the dimensions of worth, change, and congruence of financial planning processes and to identify the characteristics of each process from each institution in the study. Reliability of the instrument resulted in an estimated alpha reliability coefficient of .78 for the change section, .82 for the congruence section, and .82 for the worth section. The score range and the variability of scores demonstrated the ability of the instrument to discriminate among respondents.
The research hypothesis was tested in the null form using the Pearson correlation coefficient. The hypothesis reflected the direct relationship between the perceptions of worth, change, and congruence of the financial planning process and the characteristics as defined in the literature as desirable for financial planning processes. All hypotheses were tested at the .05 level of significance.

Interpretations of Findings

A direct relationship was hypothesized between the perceptions of the dimensions of worth, change, and congruence and the characteristics for financial planning processes. The hypothesis was supported in each institution at .05 with the exception of Institution D. In that case the dimension of worth versus characteristics was supported, and the dimensions of change and congruence were not. All the hypotheses had a positive direct relationship.

The limited number of cases in the study, due mainly to limited funds, make it difficult to generalize across all institutions. But the results of the investigation seem to indicate that if administrators find the process of financial planning to have desirable characteristics, they will feel good about its worth, change dimension, and congruence.

The results of this study seem to suggest that the more "good" characteristics a process has the better it is perceived by administrators. There was a direct relationship between good characteristics and perceptions of worth, change, and congruence.
The characteristics of planning processes of coordination and communication as identified by Pringle and Solomon (1980); Wildavsky's (1974) participation and political rationality; along with Caruthers and Orwig's (1979) equity, information burdens, costs, and outcomes and performance information are all important ingredients for good planning processes.

This investigation suggests that indeed that seems to be true. The study supports the literature in that those administrators that were able to identify these and other desirable characteristics in their own planning processes felt the processes were better than those administrators who did not identify these positive characteristics.

Generally, the administrators in this study who identified "good" characteristics in their financial planning processes scored favorably on the dimensions of change, congruence, and worth.

According to the results of the survey the processes with good characteristics were also perceived to be effective and efficient in that timely and useful information was provided. This aspect represented the worth dimension of the study.

The congruence dimension was considered to be congruence with the initial expectations held for the process and the congruence of the process with the administrative style of the institution. Again the results of the study seem to indicate that if "good" process characteristics are perceived, then administrators generally perceived the process to be congruent.
The change dimension represented perception of any positive change in the decision-making and organizational processes as a result of the financial planning process. Consistent with the other dimensions in the study, this one also seemed to be perceived to be present if "good" process characteristics were identified.

The results of the study also suggested that it does not seem to make any difference in the type of process involved as long as the perceived "good" characteristics were present. In the study three top down directed processes were identified along with one bottom up directed process. There was no indication that one process faired better than any other.

Implications of Findings

Due to the present economic conditions of rising costs and decreasing enrollments in higher education, effective and efficient financial planning is extremely important to enhance the decision-making process. Johnston (1979), Mayhew (1979), and Plourde (1978) all agree on that point.

This study has demonstrated a direct relationship between perceived "good" characteristics of financial planning process and perceived worth (effectiveness and efficiency), change, and congruence. The questionnaire as developed for this investigation might be able to be used as a tool to evaluate other financial planning processes. Although there is need for additional research with the questionnaire.

The investigation seems to imply that if individuals perceive it as having desirable characteristics, they will also perceive it
as having worth, change capabilities, and congruence with mission and goals. This seems to hold true with different types of financial planning processes. These findings would then seem to indicate that if a process needs to be instituted or changed, that it might be well to consider stressing those desirable characteristics found in the literature and summarized in Chapter II of this study. There are no indications that this will guarantee the successful operation of the process. But there is evidence that the users will be favorable in their perceptions of the process.

Recommendations for Future Research

It has been stated on numerous occasions in the literature that current financial planning processes need to be investigated; with the goal of improving the success of the processes. This investigation has done little more than substantiate the literature on the points regarding the desirable characteristics of planning processes and their perceived worth. It is the opinion of this investigator that this topic needs further study.

Suggestions for additional research are presented here for consideration: (a) expansion of the present study to a larger more diverse population, (b) evaluation of specific types of financial planning processes, and (c) comparison of perceptions of central administrators, presidents, and vice-presidents, with those of deans and department chairpersons.
Expansion of the Study

There is a need to test the survey more extensively using a larger population so that broader generalizations might be made. The next logical step for additional research would be to select a variety of sizes and types of institutions and repeat the study on a larger scale. The use of different types and sizes of institutions would make it easier to generalize across institutions.

Comparison of Administrators

The literature indicates that there might be a difference in the perceptions of administrators according to position. Valuable information regarding the perceptions of financial planning processes might be brought to light.

Although this observation does not necessarily indicate a design defect for this investigation, future research in the area should attempt to ascertain any difference between the groups.

Evaluation of Specific Plans

For the most useful information a study of specific financial planning processes should be attempted. The identification of a specific model as indicated by the literature and a comparison study of these models would provide the maximum information for those administrators considering the use of a specific process in their institution.
There is much literature devoted to the discussion of the merits of various methods of financial planning. Among these are the centralized or decentralized processes. These are also referred to as top-down and bottom-up types. This study, though limited in size, seems to indicate that as long as people perceived the process as having desirable characteristics, it did not matter that it was a top-down or a bottom-up process. This aspect of the research needs further attention.

Conclusion

It is believed this study described the financial planning processes in selected four-year coeducational liberal arts private colleges in Michigan. In addition, the investigation demonstrated that a direct relationship exists between the characteristics of financial planning processes and the dimensions of worth, change, and congruence.

Further, the investigation has provided a useful tool for the possible future study and evaluation of financial planning processes.
APPENDICES
Appendix A

Structured Interview Questions for the Chief Financial Officer
Questions for the chief financial officer on the general environment and description of the financial planning process used at each institution in the study.

1. Do you have a standardized financial planning process?

2. Describe the process. Is it a computerized process?

3. How long has it been in operation?

4. Did you design the process?

5. Are there adequate resources available for the process? 
   manpower? capital? knowledge?

6. Are there power groups or values and ideologies which limit the process in terms of the alternatives to be considered?

7. Are there goals set for the process?

8. Is the mission of the institution reflected in the process?

9. Basic environmental information to be collected.
   Physical setting
   Demographic
   Social
   Cultural
   Economic resources
Appendix B

Survey Instrument
March 10, 1982

Dear Colleague:

I have sought and received the approval of your institution to approach you for assistance in my doctoral research. The topic deals generally with characteristics and processes of financial planning in private higher education. In this regard, I am asking you to complete the enclosed questionnaire. It should take approximately 20 minutes of your time.

The information you provide will be held in the strictest confidence. Questionnaires are coded for the purpose of follow-up only. Code numbers will be removed as questionnaires are returned. There are no open-ended questions and responses will be coded and processed entirely by computer.

A stamped, self-addressed envelope has been provided for your convenience. Your further cooperation in returning the completed questionnaire by March 18, 1982, would be greatly appreciated.

Thank you for your assistance.

Sincerely,

Gary Hammerberg
Doctoral Candidate
Department of Educational Leadership
Western Michigan University

Richard E. Munsterman
Major Advisor

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Statements 1-3 represent demographic background information.

1. Title you presently hold.
   - President
   - Vice-President
   - Dean
   - Department Chair
   - Program Director

2. Number of years you have held this position _______.

3. How long have you been at this institution _______.

The following 14 statements represent various characteristics of the FINANCIAL PLANNING PROCESSES (FPP). Please answer each question with respect to the specific financial planning process utilized in your institution. There are five possible responses to the items. They range from STRONGLY AGREE to STRONGLY DISAGREE and an UNSURE response, if you are uncertain or neutral with regard to the statement. Please CHECK the ONE response which most nearly describes your feelings or beliefs about the statement.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Unsure</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The FPP reflects a sense of institutional mission.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2. The FPP is allocatively efficient.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3. The FPP is a politically rational process.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4. The FPP allows participation from interest groups.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5. There is good communication with the FPP.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>6. The FPP is too complex to be useful.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>7. There is an individual in the administration who oversees the FPP on a regular basis.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>8. The administration express a commitment to the FPP.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

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The following 15 statements represent perceptions of worth as the provision of timely and useful information with respect to the **FINANCIAL PLANNING PROCESS (FPP)** utilized in your institution. Please respond to each statement as you perceive this process in your institution. The responses are the same as the previous section.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Unsure</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>9. The FPP is utilized on a day-to-day basis for decision making.</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4     5</td>
</tr>
<tr>
<td>10. Useful information is available for day-to-day management as a result of the FPP.</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4     5</td>
</tr>
<tr>
<td>11. The FPP is too complex for general use on a routine basis.</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4     5</td>
</tr>
<tr>
<td>12. The FPP is appropriate for your institution.</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4     5</td>
</tr>
<tr>
<td>13. The FPP is adaptive and flexible.</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4     5</td>
</tr>
<tr>
<td>14. The FPP is complete on the important issues at your institution.</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4     5</td>
</tr>
</tbody>
</table>

1. The awareness and acceptance of problem areas to administrators was decreased with the use of the FPP.  
2. The institution is better prepared to handle difficult future decisions using the FPP.  
3. The ability to explore alternative solutions to problems was made harder due to the FPP.  
4. There was an overall improvement in financial data with the use of the FPP.
5. The FPP has proven valuable to the institution as a whole in the kind of decisions which must be made.

6. The FPP had an adverse impact on the amount of acceptance with which the budgetary group's decisions were met.

7. Institutional long-range planning did not improve with the advent of the FPP.

8. There was not an overall improvement in student data with the advent of the FPP.

9. There was an overall improvement in faculty data with the use of the FPP.

10. The FPP has proven valuable for the kind of decisions you must make in your position at this institution.

11. The ability to achieve consensus and/or avoid conflict became harder with the use of the FPP.

12. The governance relationships among college constituents improved after the FPP was placed into operation.

13. The FPP had a strong negative influence on the decision making at your institution.

14. There was an overall improvement in assessing institutional goals using the FPP.

15. The FPP influenced the specification of budgetary priorities.
The following 13 statements represent perceptions of change as any positive change in the decision making and organizational processes as a result of the FINANCIAL PLANNING PROCESS (FPP) in use in your institution. Please respond as previously instructed.

1. There was an overall improvement in setting objectives using the FPP.

2. Budgetary and faculty allocation decisions are decentralized to department chairs with the use of the FPP.

3. The number of budgetary alternatives to be considered has increased using the FPP.

4. The presence of the FPP has increased your functions and responsibilities.

5. The FPP has been responsible for changes in the processes of budgetary decision making.

6. The level of openness in budgetary deliberations has improved, after the introduction of the FPP.

7. The impacts resulting from the FPP were not anticipated nor intended.

8. The awareness of organizational complexity and interdependence increased by using the FPP.

9. Your workload and time commitments due to the use of the FPP has decreased.

10. There was not an overall improvement in the budget process with the FPP.
The FPP has extended budgetary thinking into the future.  

The presence of the FPP has opened your administrative style.  

The scope of organizational units affected by the FPP was narrow.  

The following 14 statements represent perceptions of congruence with the initial expectations held for FPP and administrative style of your institution, with respect to the FINANCIAL PLANNING PROCESS (FPP) utilized in your organization. Please respond as previously instructed.

1. Decisions are better than those decisions regarding similar events prior to the development of the FPP.  
2. Important information is not considered when using the FPP to make basic policies.  
3. The extent that you are trusted by other administrators is low due to the presence of the FPP.  
4. People know what they must do to make better plans using the FPP.  
5. Opportunities to improve the institution's financial status are missed because of poor planning.  
6. The clarification of institutional goals was more difficult after the introduction of the FPP.  
7. People clearly know what is expected of them as a result of the use of the FPP.
8. The mission of the financial planning group was not clearly defined.

9. Policies and strategies conflict with each other, due to the use of the FPP.

10. With the use of the FPP, there is a conflict between objectives or directions that people or groups are expected to accomplish.

11. The time and financial resources consumed by the FPP were expected.

12. With the use of the FPP there are inconsistencies or contradictions among policies and standards.

13. The level of effort instituting the FPP did not match results obtained.

14. The benefit of the FPP in relation to the money spent on it has proven to be justified.

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Unsure</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

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Appendix C

Instructions to the Validation Panel for the Development of the Survey Instrument
Baldridge and Tierney (1980), in one of the few analyses of the use of management systems in small colleges, used a questionnaire that measured three concepts: change, congruence, and worth. Their study described the systems in detail and present the results of the evaluation of their use in 34 small colleges in an effort to determine the system's success.

Dror's (1968) system for viewing planning processes outlined four primary facets and a series of subfacets. These facets and subfacets were used for the basis of the construction of many of the survey questions.

The present study is designed to describe outcomes of specific financial planning activities used at small private colleges. The questions were constructed from the study by Baldridge and Tierney and also from Dror's concept for viewing planning processes.

The attached statements will be used to construct a summed score instrument for a measure of change, congruence, and worth, which operationalizes the three dimensions used by Baldridge and Tierney and other investigators.

There are attitudinal items for each dimension of the study; change, congruence, and worth, resulting in a total of 57 items. All items will have five possible responses. Attitudinal items will utilize a Likert response format with the possible responses ranging from strongly agree to strongly disagree.

Please render a personal judgment for each item on the forms provided using the following criteria:
Clarity. Is the statement clear and concise? Indicate either (yes) or (no).

Redundancy. Is the item redundant in relation to the context of the other items? Indicate either (yes) or (no).

Appropriateness of dimension placement. Is the item placed correctly according to the dimension specified at the beginning of each of the three groups of statements? Indicate either (yes) or (no). If no, please specify the appropriate dimension (1, 2, or 3).

Favorability. Does a response of strongly agree indicate a positive or a negative attitude toward the financial planning activity? Indicate whether you believe a strongly agree response would indicate a positive attitude.

Response stimulus. Is the item a proper stimulus for a strongly agree or strongly disagree response? Indicate either (yes) or (no).

Context validity. Does the statement relate to the change, congruence, or worth concepts of a planning process as operationalized in the current literature? Indicate either (yes) or (no).

Inclusion. Does the statement possess sufficient validity to be included in the instrument? Indicate either (yes) or (no).

Importance. If, in your judgment, the item should be included in the instrument, rate its importance relative to the other items pertaining to the same dimension. Use a 3-point scale as follows: (3) high, (2) medium, (1) low.

In any case where your judgment was not favorable, some indication as to your reason(s) noted on a separate sheet would be appreciated, as would any additional comments or suggestions which you believe are appropriate.

Thank you very much for your valuable assistance in the development of this instrument.
## ITEM EVALUATION SHEET

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Clarity</th>
<th>Redun.</th>
<th>Variable Placement</th>
<th>Favorability</th>
<th>Response Stimulus</th>
<th>Content Validity</th>
<th>Inclusion</th>
<th>Importance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Y or N</td>
<td>Y or N</td>
<td>Y or N D</td>
<td>L or C</td>
<td>Y or N</td>
<td>Y or N</td>
<td>Y or N</td>
<td>(3)H, (2)M, (1)L</td>
</tr>
</tbody>
</table>
Appendix D

EDUCOM's Education Financial Planning Model and Management Control System
EDUCOM's Education Financial Planning Model

Updegrove (1979) described EDUCOM's Educational Financial Planning Model (EEPM). EDUCOM is a nonprofit membership organization composed of colleges, universities, and other nonprofit institutions associated with higher education. It was founded in 1964 to promote cooperative efforts in the application of computing and information technology in higher education and research.

EEPM is an interactive computer based modeling system used by over 70 colleges and universities for budget and financial planning, as well as enrollment and faculty tenure planning. Users have applied EEPM to entire institutions and to such subunits as the library, computer center, housing, dining, and buildings and grounds.

This model has been reported to have all of the characteristics of a good model as reported by Massy and Hopkins (1979). It is simple, complete on important issues, easy to control, stable, adaptive, and easy to communicate with. The results of a feasibility study of adapting the standard models indicated that models are useful if they are tailored to the institution and have an "executive godfather" to overview the system on a routine basis.

EEPM is a generalized adaptation of the Stanford University Trades Model, and it was developed by EDUCOM with financial support from the Lilly Endowment Fund. Project directors developed a generalized model that required little to no reprogramming to adapt to new institutions. The system was based on these three principles:
1. Most, if not all, of the institutional information should be included in a set of self-documenting data files comprehensible to the non-programmer.

2. The modeling program should operate by a series of questions and answers, with sufficient nontechnical explanations to be operated by someone other than the creator of the data files.

3. The computer-based model should be available over a nationwide telecommunications network, so that many users could dial into the computer system, but only one copy of the generalized model would have to be maintained. (p. 199)

All programming was done in Fortran, a most common computer programming language.

EEPM starts with a blank matrix of 560 rows by 10 time periods each usually set at 1 year. The contents of the matrix is determined by user defined variables and relationships contained in a set of six on-line data files: (a) data descriptions, (b) budget functions, (c) growth functions, (d) report formats, (e) discontinuous or step functions, and (f) feasibility constraints.

Once the data files are created and stored on-line, EEPM can be run from a computer terminal by a user responding to a series of prompting questions. Options available are the ability to modify primary planning variables, forecast function up to 10 years, perform trade-offs in which the user requests EEPM to determine combinations of primary planning variables values that satisfy a set of user-defined feasibility conditions, and perform miscellaneous editing and file management.
Management Control System

Maciarello and Enteman (1974) outlined a Management Control System (MCS) for private colleges that included the following four major items: (a) a long-range planning process (LRPP), (b) a responsibility center organization structure, (c) a program-budgeting process, and (d) a technique for reconciling program budgets with the accounting system. The system must be highly situational and deal with the intrinsic characteristics of private institutions. The major characteristics are: (a) the tendencies that create a virtually unlimited demand for resources, one of a kind programs and projects that could be implemented if only the funds were available; (b) a labor intensive technology—a limited student-faculty ratio with limited productivity increases; and (c) laboratory work in sciences and engineering that require a continuous "keep up" with new technology.

He continued by stating the LRPP process must articulate a well defined model of the college and provide criteria for decisions that apply to reallocation of resources. The descriptive models used to illustrate the kinds of alternatives available in the LRPP process must be adaptive as goals may change as assumptions change or are refined. The LRPP must not "strait jacket" the institution, and it must be well articulated and adaptable.

A certain amount of danger is inherent when an institution begins to change goals. Mayhew (1979) warned that institutions that attempt to change horses in mid-stream often fail. If goals are to
change it must carefully and direct toward those activities the institution does best.

Maciarello and Enteman (1974) continued by stating the LRPP must direct goals and objectives toward attainment of limited resources, and contain criteria for evaluating the benefits and cost alternatives for budgetary expenditures. Without objectives the budgetary process would become nonsubstantive and every alternative choice decision would be subject to power and political manipulation.

Objectives would give the MCS focus. The system would operate by: (a) the isolation of the dynamics of the economic variables that are considered crucial for attaining the objectives defined in the LRPP, (b) establishing a responsibility center organization structure in a way that would permit maximum leverage over those key economic variables, and (c) creating a process for planning and controlling the key economic variables using the heads of the various responsibility centers as its focus.

The key economic variables to be identified are on the revenue side: (a) tuition, (b) gifts, (c) grants, and (d) endowment. For the expenditures they include: (a) compensation, (b) supplies and services, and (c) capital expenditures. The system identified three elements involved in exposing the dynamics of these variables for private colleges: (a) the cumulative pressures from long run requirements such as compensation rate increases that are equal to those granted in other sectors of the economy with no productivity offsets, (b) continued increased economic pressures resulting in
increased tuition, and (c) the price elasticity of demand for private college education as measured by the response of applications to increases in tuition. Statistical evidence indicates that as price (tuition) rises relative to other goods in the economy (including tuition prices of publics) the demand for services falls. The dynamics of cost, revenue, and demand for services must be included in the LRPP.

MCS structure—the breakdown of the organization into responsibility centers—would be accomplished by identifying each organizational unit as a particular type of center. This needs to be done to devise planning and control units that provide the maximum leverage over the economic variables that have been identified as crucial for meeting the objectives of the college. There would be need to provide suitable incentives for the various center directions to operate in the best interest of the college while they fulfill their own self-interests.

Each unit of the responsibility center structure would be designated as either a cost center, a financial contribution center, or an investment center. A cost center would budget and control only for cost variables, undergraduate curricular services, for example. The financial contribution center would include units like the auxiliary enterprises, computer center, and development office for special programs. These units would have a fair amount of control over revenue and expense and might be budgeted and controlled on the basis of net contribution. The investment centers, i.e., the president's office and endowed institutes' directors, have control over
net contribution and investment performance.

The computer assisted MCS involves three components: (a) planning a link between budget, objectives, priorities, and programs; (b) a budget cycle—a permanent systematic budget process that links programs, goals, and responsibility centers for program analysis; (c) control and monitoring plans periodically. Tools used in cost centers to accomplish this would include line item budgets and responsibility center budgets and comparing planning with actual cost. Financial contribution centers would use net contribution and compare actual revenue and costs versus planned revenue and cost by program. The investment centers would be monitored by net contribution by program plus investment performance. This system, according to the author, would allow the president to become involved primarily with LRPP and through the MCS to implement plans and gain leverage over the income variables by leading fund raising activities.
Appendix E

Questionnaire Validations
## Process Characteristics

<table>
<thead>
<tr>
<th>Item</th>
<th>Author</th>
</tr>
</thead>
<tbody>
<tr>
<td>4. Participation</td>
<td>Caruthers &amp; Orwig (1979)</td>
</tr>
<tr>
<td>5. Communication</td>
<td>Massy &amp; Hopkins (1979)</td>
</tr>
<tr>
<td>6. Complexity</td>
<td>Massy &amp; Hopkins (1979)</td>
</tr>
<tr>
<td>7. Administrative overseer</td>
<td>Lawless et al. (1980)</td>
</tr>
<tr>
<td>8. Administrative commitment</td>
<td>Lawless et al. (1980)</td>
</tr>
<tr>
<td>9. Utilization on a daily basis</td>
<td>Caruthers &amp; Orwig (1979)</td>
</tr>
<tr>
<td>10. Useful information</td>
<td>Fremont (1975)</td>
</tr>
<tr>
<td>11. Complexity</td>
<td>Massy &amp; Hopkins (1979)</td>
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<tr>
<td>12. Institutionally appropriate</td>
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<td>14. Completeness</td>
<td>Massy &amp; Hopkins (1979)</td>
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### Interview Items

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<th>Item</th>
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<tr>
<td>1. Standardized process</td>
<td>Dror (1968) planning unit</td>
</tr>
<tr>
<td>2. Process description</td>
<td>Dror (1968) planning unit</td>
</tr>
<tr>
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</tr>
<tr>
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<td>capital</td>
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</tr>
<tr>
<td>knowledge</td>
<td></td>
</tr>
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<td>6. Power groups</td>
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<td>values</td>
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<td>ideologies</td>
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BIBLIOGRAPHY


Fremont, J. L. The budget cycle as a basis for decision making in higher education. Planning for Higher Education, 1975, 4, 66-68.


Johnston, A. P. Requisites for planning utilization. Planning and change, 1979, 2, 87-98.


